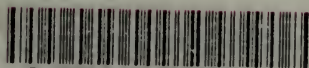


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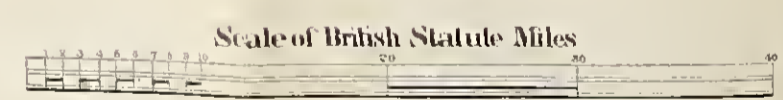
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MAP
OF A PART OF
CANADA WEST,

SHOWING THE ROUTE FOR THE PROPOSED
**TORONTO AND OWEN SOUND
CENTRAL RAILWAY,**

(And its Connections)
by
J. W. TATE, C.E.

W.C. CHEWETT & CO. LITH. TORONTO.



REPORT

ON THE

PROPOSED ROUTE

OF THE

TORONTO & OWEN SOUND

CENTRAL RAILWAY.

WITH A MAP.

BY J. W. TATE, Esq.,

CIVIL ENGINEER.

PETERBOROUGH:

PRINTED BY ROBERT ROMAINE.

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REPORT

OF THE

TORONTO AND OWEN SOUND CENTRAL RAILWAY.

To JOHN FROST, EsQUIRE,

Chairman of the Railway Committee of the Town of Owen Sound.

SIR,—

Agreeable to the resolution passed by your Committee on the 18th April last, I have now the honour to address yourself and the Committee the following report upon the proposed Toronto and Owen Sound Central Railway and the contemplated branch *via* Durham and Walkerton to Southampton on Lake Huron.

The project of a line of Railway to connect the counties of Grey and Bruce with Lake Ontario is not of recent date. Just ten years ago a charter was obtained for the "Canada Northwestern Railway Company, granting power to construct and complete a railway connection at or near the town of Southampton, or Saugeen, in the county of Bruce, and Lake Ontario at Toronto, with full power to pass over any portion of the counties of Wellington, Grey and Bruce, to intersect and unite with the Grand Trunk Railway at the town of Guelph, and to construct a fork or branch to Owen Sound from any point north of Durham," and in the following year—June 10th, 1857,—a charter was obtained for a line to connect Owen Sound and the city of Toronto direct, under the title of the Toronto and Owen Sound Central Railway.

Both these lines have been reported upon, the first by Sandford Fleming, Esquire, C. E., and the second by Kivas Tully, Esquire, C. E., but as these gentlemen were not required in either case to make instrumental surveys, the reports are strictly preliminary, and do not touch upon the subject of cost.

Mr. Fleming does not mention or even allude to a line for the location of the "Northwestern" beyond the quotation from the Act of Incorporation above given, copied from his report, nor has he projected a line for the road upon his map.

When Mr. Fleming made his reconnoissance of the section of the counties of Grey and Bruce through which the Act of Incorporation authorised the construction of the Northwestern Railway, the country was far less cleared and opened out than it is at present, it was therefore much more difficult to acquire knowledge of its topography then than it is at the present time. Mr. Fleming's report contains an admirable description of the chief geological characteristics of the whole tract of country bounded by the Northern Railway, Georgian Bay, Lake Huron, and the Grand Trunk Railway west of Toronto, and also a clear and faithful outline of its principal topographical features, with much other valuable information bearing upon the subject.

As the third clause of the Act of Incorporation of the Northwestern Railway to an approximately definable extent fixes an intermediate point of the line for its location, namely a "point north of Durham" for the junction of the Owen Sound fork or branch with the main line, and as a natural consequence would seem to have had in view for the intermediate line between the town of Guelph and that point of junction, the range of country in the vicinity of the Garafraxa road, I am not surprised, considering the physical character of the country north of the town of Mount Forest through the westerly tier of townships in the County of Grey, and the unfavourable features of the country from the said initial point through the County of Bruce to Saugeen on Lake Huron, that Mr. Fleming, in the absence of an instrumental survey, did not hazard the projection on his map of an approximate line.

In the route for the Toronto and Owen Sound Central Railway, Mr. Tully had a very much more favorable tract of country before him for railway construction than Mr. Fleming found in those portions of Grey and Bruce, which he was called upon to explore and report upon.

From Toronto to the foot of the Caledon Hills, a distance of 30 miles, he found a level, and in every other respect favourable, country as he could possibly wish to see; and having passed the hilly region in the Township of Caledon to the valley north of Orangeville, his course through the Townships of Mono and Amaranth to the southerly boundary of the County of Grey was free from engineering difficulties.

Rising in gentle acclivities from the valley of the river Credit north of Orangeville through these townships, Mr. Tully's line enters upon the table lands of the townships of Melancthon, Proton and Artemesia in the County of Grey, and continues thence in the immediate vicinity of the Toronto and Sydenham road to Owen Sound. Distance from Toronto computed at 108 miles.

Within the last two years I believe a charter has been granted authorising the construction of a branch from the "Northern Railway" at Angus Station, seventy-four miles from the city, and twenty-two miles south east of Collingwood harbour, and I believe that power was granted the Ontario, Simcoe and Huron Railway Company (the Northern) to extend their line from Collingwood to the town of Owen Sound, along or near the shore of the bay, through the townships of Collingwood, St. Vincent and Sydenham. Distance approximately forty-three miles.

It thus appears that three different projects have been started for the ostensible purpose of affording the Counties of Grey and Bruce Railway communication with Lake Ontario at Toronto, I think it very questionable however whether more than one of these is entitled to the distinction and merit of seeking only the accomplishment that object.

Before entering upon a comparison of the terminal, linear and local characteristics of these several railway routes a rough descriptive sketch of the country will not be out of place.

From the shore of Lake Huron along the coast of the County of Bruce the country as you proceed eastward rises with many but not abrupt undu-

lations to a line somewhat arbitrary bearing northerly and southerly through the townships of Normanby, Bentinck and Sullivan in the County of Grey, west of the Garafraxa road. This tract is distinguished by its generally fine and gently undulating surface, and for the depth and great fertility of its soil. Eastward of the line above indicated a marked change in the face of the country arrests the attention of the explorer; the plateau like plains, gentle undulations and deep river valleys of the lower country are succeeded by a steep rolling tract presenting in many places, particularly at Durham, and both north and south of that village in the townships of Glenelg and Egremont, eminences of considerable elevation and large extent. The soil too has changed from the deep alluvial clays of the lower and middle Saugeen region to the lighter sand and gravelly loams of a higher country.

In the townships of Sullivan, Holland and Sydenham many exposures of the rock formation which underlies a large part of the County of Grey are to be seen, and also numerous "erratic" blocks and fragments of the same rock lie scattered over the surface. This formation has its out crop along the eastern and northern escarpments of the table land opposite the Humber Valley and Georgian Bay in bold cliffs and promontories, suggesting to the beholder the idea of a line of ancient sea coast.

That portion of the County of Grey which may be properly described as the high hilly region occupies the townships of Glenelg and Egremont, the easterly parts of Normanby and Bentinck, and the south-westerly part of Artemesia. The township of Holland, north of the Sydenham road, also presents a succession of high rolling ridges.

The north half of Amaranuth and Luther, and the township of Arthur, in the County of Wellington, with the townships of Melancthon, Proton, Osprey and the southerly part of Artemesia, in Grey, occupy the table land—doubtless the highest land of equal extent between Huron and Ontario.

Several of the principal rivers of the western peninsula of Canada have their sources upon this table land. The most considerable are the Nottawassaga, Beaver and Bighead, flowing into Georgian Bay; the Credit, emptying into Lake Ontario; Grand River, flowing southward to Lake Erie, and the Saugeen westward to Lake Huron.

The elevation of this prolific watershed, assumed to be not less than one thousand feet above the level of Lake Ontario, determines the character of the streams flowing from it; they are all rapid, affording water power to any extent that may or can ever be required to meet the utmost development of the natural resources of these Counties.

Up to the present time the productions of this fine tract of country have been almost exclusively agricultural. Of these the annual yield is very large, amounting last year in value to \$ per capita of the population.

In respect to the productions, I may state that large quantities of elm timber of a very superior quality have been taken out within the last four or five years, and that very large quantities still remain to be made. The railway will furnish the required facility for getting this valuable timber to Lake Ontario, the difficulty heretofore having been the absence of the means of transportation; for the streams in the County of Grey are all too rapid and shallow to admit of the "running of timber."

Building stone of the very finest description is found at Owen Sound and other localities in the County of Grey, and in the County of Peel; at the "forks" of the Credit an unlimited quantity of the two varieties, sandstone and limestone, may be obtained.

A beautiful brown sandstone abounds at this point, not I believe hitherto worked or used to any extent in this country. In the gypsiferous rocks which underlie a large portion of the County of Bruce, there is every probability that gypsum will be found.

The absence of pine timber in Grey and Bruce may be viewed as a present disadvantage and loss in respect to the prospective business of a Railway, but there is another view of that matter which should not be lost sight of, namely, that a population of one hundred thousand people will require a very large quantity of sawn lumber annually, which will constitute an item of some significance in the business of any line of railway intersecting these Counties.

To resume the subject of the history, merits and comparative features of the three Railway projects, I may state that as the 'Canada North-western,' now more popularly known as the "Hamilton, Guelph and Owen Sound, and Saugeen Line," has priority in date, I will take it up first. The project in its inception was, and according to the reading of the third clause of the Act of Incorporation, is designed to connect the towns of Owen Sound and Southampton with Toronto by way of Guelph and the Grand Trunk Railway; but the present promoters and advocates of this line, I think, look to Hamilton as their terminus on Lake Ontario, claiming at the same time that by the Grand Trunk Railway from Guelph they command an outlet by Toronto as well. That there is a certain advantage in the double outlet from Guelph, cannot, I think be denied, and should secure for this line favourable consideration, provided the position of the line and branch north of Mount Forest was such as to afford facilities of communication to the Counties of Grey and Bruce, as would command the required amount of pecuniary support to insure its construction.

The distance from the town of Guelph to Southampton or Saugeen by Durham, and from the same point to Owen Sound—supposing we assume the point of junction for the branch to Owen Sound to be Durham, or a short distance northwest of that Village—is severally :

First to Saugeen,	- - - - -	90 miles.
And second to Owen Sound,	- - - - -	85
Distance from Guelph to Toronto by Grand Trunk Railway,		49½
Guelph to Hamilton, via Harrisburg,	- - - - -	50
We then have Owen Sound to Toronto,	- - - - -	134½
Saugeen to Toronto,	- - - - -	139½
Saugeen to Hamilton,	- - - - -	140
Owen Sound to Hamilton,	- - - - -	135

These distances are, of course, only approximate; however, surveys and a location would be more likely to increase than reduce them.

In considering the local characteristics of these projects, I do not propose to go any further than to institute a comparison of the facilities that each would respectively afford the inhabitants of the district, they are as stated above ostensibly projected to benefit.

The north-western or Guelph line would run in the immediate neighborhood of the Garafraxa road to Mount Forest or some point near that town, crossing the Grand River between Elora and Fergus, and would enter the county of Grey near the angle in the south boundary of the township of Normanby, and run thence northward through the townships of Normanby, Bentinck, Sullivan, Elderslie and Arran to Saugeen, the junction of the "branch or fork" to Owen Sound would probably be fixed at some point in the township of Bentinck.

In projecting the route above described, north of Mount Forest at some indefinite distance west of the Garafraxa road and village of Durham, I have assumed from such a general and imperfect view as I could obtain of the country from the heights along that road, and from information obtained in the neighbourhood, that a practicable but comparatively expensive line can there be found.

Following the course of the line upon the map, it will be seen that it must cross the three principal branches and all the tributaries of the Saugeen River, which traverse the townships above named; and in case it should be found necessary, in order to avoid the spurs of the hills which are crossed by the Garafraxa road, to locate west of the middle of the townships upon the alluvial clay lands above described, the streams will be found flowing in channels or beds cut deeply into the soil. Taking these features into account, I think I am justified in describing it as a "comparatively expensive" line for construction.

Its situation along the western border of the county would not, I am confident, satisfy a majority of the people of Grey, and without the support of the whole County, or of at least six-sevenths of the rate-payers, none of these projects have much chance of ever being carried out.

I will assume, in the absence of actual surveys, that Mr. Tully's map measurement for the "Central" line is correct at 108 miles.

It will be seen that the "Central" scheme does not take in the County of Bruce, otherwise than incidentally, or by a branch.

THE BRUCE BRANCH.

Upon examination of the route for a branch from some point on the main line, north of Orangeville, through the southern tier of townships in Grey, by Durham and Walkerton in Bruce, and thence to Saugeen, and a careful survey of the natural facilities possessed by Saugeen or Southampton for the construction of a harbour suitable for and calculated to attract a large lake trade, such branch was abandoned, being for several reasons not regarded as feasible.

That branch, intended to have diverged from the main line near the principal branch of the Saugeen, in the township of Artemesia, would have run in the County of Grey 27 miles, and its length in the County of Bruce would not have been less than 40 miles; total 67 miles.

The country which the line would traverse from the westerly bounds of Artemesia to Walkerton, or a point one mile west of that village, a distance of 33 miles, was found unfavourable in its contour for economical construction. The chief feature and obstacle on the route being the Saugeen river and tributaries. The beds and valleys of the main stream, and the affluents from a point a few miles below Durham are deeply excavated in the alluvial clays above described, so that at Walkerton, a point on the main river below the confluence of the "rocky Saugeen" and the 'South branch,' we find the valley from five hundred to one thousand yards wide, and the river two hundred feet below the plateau bounding the gorge.

Between Walkerton and Southampton the immediate valley of the Saugeen is not practicable. From Hanover the left bank of the river and valley would have to be followed to a point on the Elora road three miles north west of Walkerton. From that point there is a very good line to Southampton by crossing the Elora road and continuing the line northwest across the "Teeswater," or west branch of the Saugeen.

Arrived at Southampton, the question of harbour becomes one of the first importance. There is in truth and in fact no harbour, not even the shelter of a river mouth, for the rapids of the Saugeen and the billows of Lake Huron meet and embrace each other at the lake shore; and the forlorn appearance of the scattered town, or rather village, affords melancholy evidence of the absence of natural advantages.

Chantry Island, a long low strip of land, about 2,000 feet in extent lying nearly parallel with the main shore, and distant from it about three fourths of a mile, situated a little south of the mouth of the Saugeen, has been considered by previous explorers, with the reefs of rock extending under water north and south of it, as a good foundation for the outworks of an extensive harbour.

There is no engineering difficulty in the way to prevent the construction of such a harbour. The foundation is rock, and therefore all that can be desired, and the depth of water outwards from the main shore, and inwards from the points of the reef, to the extent that piers would have to be constructed, does not exceed, as I was informed at Southampton, twenty-five feet.

The shore of Lake Huron from Cape Hurd to Saugeen, and for many miles southward, presents most of the features of an exposed sea coast. A broad sand or rocky beach, sand "dunes," and a storm beaten and stunted vegetation, indicate the extent and stormy character of this inland sea. The prevailing winds upon this coast being in the direction of the largest diameter of the lake, from the northwest, the seas impinging upon the shore at this point, have a reach of one hundred and fifty miles, from the west, a range of 100 miles, and from the south 80 miles. I consider therefore that works of the most permanent description would be necessary in the construction of a harbour, which taken in connection with their magnitude, places the project far beyond the reach of any agency less powerful than the Provincial Government. It is in my judgment a question, whether the best harbour that could be constructed at Saugeen, would or could become an attractive one. For several miles north and south the coast is low and totally devoid of landmarks. During the autumn therefore, which is the season when transportation is most active, as well as the season of storms, the coast of Bruce is dangerous to approach. I was informed at Southampton that navigators avoid it in stormy weather, keeping well up to the Michigan shore in westerly and north-westerly gales. Storms are so severe at Saugeen that it is not uncommon for a vessel to be forced to lie for three or four days under shelter of the pier on Chantry Island without being able to have any communication with the town or the main shore at any point.

As above stated the Bruce portion of this branch would measure about 40 miles, and that part of it lying within the limits of Grey about 27 miles.

It will be found that to accommodate the County of Bruce with Railway facilities to such an extent as to command the support of the project as a County measure, not less than forty miles of line will have to be laid down within the limits of the County; and moreover that while the line must be located so as to accommodate the county in the best manner, expensive construction must be avoided, otherwise the people of Bruce are not likely soon to enjoy the benefits of a Railway.

The absence at Saugeen of a natural harbour, and the large expenditure that would be involved in the construction of an artificial one there, induced me to make enquiries respecting other points on the coast of Bruce, situated further south.

From all the information I could gather, I came to the conclusion that the little bay of "Inverhuron," in the Township of Bruce, possesses the best natural features for a harbour to be found on that coast south of "Chief's Point."

I am not in possession of any professional information respecting what the artificial works necessary to render the Bay of Inverhuron a safe harbour—not taking into account wharves for the accommodation of commerce—would cost, or even an approximation; but I am warranted upon good authority in stating that the cost of such works would be less than one half the sum that would have to be expended at Saugeen.

The "Central" line between Owen Sound and the south-west boundary of the County of Grey, will not be less than 50 miles in length; and as that line cuts through the County centrally, and will accommodate the people of Grey better than any other line of the same length that can be projected, I do not consider it probable that the people of that County would consent to subsidise any additional length of line.

It became manifest therefore that unless the County of Bruce was prepared to subsidise the branch in its whole extent, it would be impossible to carry it out.

Taking this view of the branch, and taking into consideration as well the physical characteristics of the country over which the line would pass for one half its length, and the absence of an attractive terminus on Lake Huron, I had no hesitation whatever in advising its abandonment through Grey and Bruce by Durham and Walkerton.

In my judgment, a line of Railway for the County of Bruce must intersect the County centrally, and at the same time be kept away from the Saugeen River and its Branches, for I think it will be admitted that to afford any chance of success under the present circumstances of Railway projects in this Country, the cost of graduation must be kept down to a minimum of the most favourable lines.

With these considerations in view I have projected on my map an approximate line for a Railway in the County of Bruce, to occupy ground southwest of the Saugeen and its branches, which the line will avoid, except a single crossing of the "Teeswater;" and I have selected as the most favourable in all respects the Bay of Inverhuron, as the terminus on Lake Huron.

From the southerly boundary of the County, this line may be carried to Guelph, or via Mount Forest or Arthur, to a junction with the "Toronto and Owen Sound Central," near Orangeville.

In a comparison of distances from Owen Sound to Toronto, by way of the Guelph line and the central route, it appears that the difference in favour of the Central is twenty-two and a-half miles, with the further advantage of an independent and separate line throughout. Extending the comparison to the branch projected on my map, from the "Central" near Orangeville, to the Bay of Inverhuron, in Bruce, I find the distance from Lake Huron by the branch and the "Central" to Toronto, approximately 125 miles, and from Inverhuron taking the line of the Elora road to the town of Guelph, and thence by the Grand Trunk Railway to Toronto, 135 miles, showing that by the branch in the journey from Inverhuron to Toronto a saving of ten miles would be effected.

The length of the "Wellington and Bruce" branch of the "Central" is 80 miles, against 85 miles of line required to connect Inverhuron with Guelph.

I have projected the branch to run near the ambitious and thriving little town of Mount Forest, but a saving of about five miles in distance can be effected by branching off at or near Orangeville, and pursuing a course near the south bounds of the townships of Amaranth and Luther intersecting the Garafraxa road near the village of Arthur. From my own observations, and from reliable information, I am able to state that the ground over which this branch would run is particularly favourable for railway construction. The only streams of any note intersected being the Grand River, in the township of Amaranth, and the "Teeswater," in the township of Greenock; none of these streams, where the line would cross them, are larger than mere brooks, and the crossings are so far up towards their sources that the deep beds which distinguish them lower down are avoided.

I doubt if there is another range of country in Western Canada not already occupied, where eighty miles of Railway could be graded at as little cost.

In respect to the matter of the facility it would afford the people of Bruce, I think I am safe in asserting that this line intersects that country as favorably as any line equally feasible can be laid out. Its length within the limits of the County, not exceeding 40 miles, taken in connection with the bonus of £100,000, which the Council of the County have offered, and its cost for graduation, above alluded to, places it as a railway scheme for the people of Bruce within their power to accomplish.

The remaining 40 miles lying chiefly within the limits of the County of Wellington would have to be provided with a subsidy to insure the success of the project.

The location of the line being changed to run by Arthur as above proposed, the following townships would become directly tributary to it, and might therefore be relied upon to assist in its construction, namely: Howick, Minto, Wallace, Arthur, Maryborough, Peel, Luther and Garafraxa. One hundred thousand pounds from the County of Bruce, with forty thousand pounds from the above named eight Townships in Wellington, would in my judgment secure the construction of the Wellington and Bruce branch of the "Central."

THE DURHAM AND ANGUS LINE.

This project is eminently that one of the three Railway schemes now under consideration, which is the least entitled to the merit of having been conceived and set on foot in the interest of the people of the Counties of Grey and Bruce.

It is proposed, as its title imports, to start this line from Angus Station on the Ontario, Simcoe and Huron Railway, a point seventy-four miles by that Railway northwardly of the city of Toronto, and to run it thence upon as direct a course as possible to the village of Durham, in the County of Grey; distance approximately, forty-seven miles. I am not aware that the present charter authorised its extension to any other point.

A preliminary survey of the line has, as I learned in Grey, been made recently, and according to the best information I could obtain, it runs from Durham eastward, to or near the north-west angle of the township of Proton; thence to, and crossing, the Sydenham road in the vicinity of "Dundalk" Post Office, passes through Mulmur near the middle of that township, and by the valley of a principal tributary of the Nottawassaga river, reaches its eastern terminus, Angus.

I am not aware that this line touches at or near any intermediate point of note in the County of Grey, except *Dundalk*; and its course in this County lies almost wholly in the southern tier of townships. Terminating at Durham, thirty miles south of Owen Sound, the County seat, and from Walkerton, the County seat of Bruce, seventeen miles, it cannot in my judgment be urged that it is likely to be regarded with much favour by the people of these Counties.

The situation of this line is such, that it is hardly possible to institute a comparison between it and the other two railway projects. It does not enter, indeed it hardly approaches, the County of Bruce; while the existence of the town of Owen Sound, and the surrounding populous and wealthy townships in Bruce and Grey, are wholly ignored.

The noble and capacious natural harbour at Owen Sound, whether viewed in respect to the beauty of its scenery, or the facilities it would afford for the accommodotio[n] of the Western and North-western lake trade,

is, and has been regarded as one of the most notable features of the great Georgian Bay, and I believe that I am warranted in stating that it has always been considered by Navigators of these North-western waters, and commercial men, that all that was necessary to make the "Sound" the principal entrepot of trade on Georgian Bay, was a connection by railway with Lake Ontario at Toronto.

Had the splendid natural advantages of Owen Sound, anything to do with the inception of the Durham and Angus Railway scheme?

I believe the defective and unfavourable character of Collingwood harbour is well known, and that the efforts formerly made by the Ontario, Simcoe and Huron Railway Company to secure for their line a remunerative volume of western trade signally failed in consequence. Collingwood harbour is wholly artificial, and bounded by no natural sheltering heights, it is exposed and inattractive.

Is it unfair then, when we find the Officers and others representing the Ontario, Simcoe and Huron Railway opposing—particularly the Toronto and Owen Sound Central scheme—by pitting the Durham and Angus project against it, to assume that fear of rivalry, and a desire to monopolise the whole north-west, lies at the bottom of their project.

The geographical position of the Durham and Angus line, in respect to the Counties of Grey and Bruce, but particularly as regards the former County, stamps it as a scheme conceived wholly in the interest of the "Northern" Railway. Was its position in the County of Grey a central one, leading to Owen Sound, it might be urged that that County and a part of Bruce were *incidentally* benefitted; but that is not the case; it is a scheme of no mixed character, being purely selfish in all its features.

In case "Northern" Railway influence proves successful in its opposition to the "Toronto and Owen Sound Central," to the extent of preventing a renewal of the Charter, it by no means is to be assumed that the people of Grey will be induced to assist in building the Durham and Angus line; supposing however such success, and that to secure the monopoly aimed at the Northern Railway interest should build that road, what would then be the Railway facility which the people of Grey would have to accept and submit to, in place of their own scheme the "Central."

From Owen Sound by gravel road to Durham,	-	-	30 miles.
From Durham to Toronto, via Angus,	-	-	125

155 miles

Including 30 miles of "staging," against 108 miles by rail per the Central.

Supposing however, for the comparison, that instead of going forward to Durham, the Angus branch of the "Northern" on reaching the vicinity of Dundalk was made to take up the route of the Central to Owen Sound, the people of Owen Sound would be relieved of 30 miles of "staging," but would still "for all time" have 145 miles between them and Toronto, by Angus and the Northern Railway.

I do not deem it necessary in these comparisons to carry them into the details of fares, and rates of freight, considering that as a general rule these depend upon and are governed by "mileage."

It may be well however to sum up the case upon that principle, to see how it stands. The mileage then upon these routes stands approximately as follows:—

Owen Sound to Toronto, Durham and Angus,	-	-	155 miles.
Do. Guelph,	-	-	135
Do. Central,	-	-	108

Assuming then that the cost of the movement of Freight and Passengers will be in the direct ratio of the mileage, and overlooking for the moment that thirty miles of the route from Owen Sound, via the Durham and Angus route would be *cartage*, we have the following results:—

Fare of one passenger, from Owen Sound to Toronto, via			
	Durham & Angus line, at 3c per mile,	-	\$4 65
Do.	Guelph line,	-	4 05
Do.	Central line,	-	3 25

FREIGHT.—Cost of transportation for one ton of Freight at two and four-tenths of a cent per mile:—

Owen Sound to Toronto, via Durham & Angus line,	-	-	\$3 72
Do.	Guelph line,	-	3 24
Do.	Central line,	-	2 59

These differences in favour of the Central route may be taken practically, as the length of that line is so near one hundred miles, as even percentages. The freight charges therefore to a merchant at Owen Sound on an invoice that would cost him \$100 by the Central, would cost him \$150 by the Durham and Angus line.

To that difference must, of course, be added the difference between the Railway rate and the cost of cartage over the thirty miles between Owen Sound and Durham.

It was urged and argued by Mr. Cumberland, at the Toronto meeting, on the 23rd May last, that a line of railway from Toronto to Owen Sound would ruin the latter town by drawing everything away from the surrounding country in the direction of the Eastern terminus of such Railway. If Mr. Cumberland's proposition is sound, he is with the other promoters of the Durham and Angus scheme, clearly entitled to the thanks of the people of Owen Sound for not carrying that line any *nearer* to them than Durham.

Under the present state of matters at Owen Sound in respect to forwarding and transportation of the productions of the surrounding townships, it is true that it is the shipping port for whatever surplus the country produces, and it is to this effect that the growth of the town is to be attributed, but for six months in the year the navigation upon Georgian Bay is closed, and whatever quantity of the surplus productions of the district remains, has to be hauled 30 to 70 miles over to Collingwood, 80 miles to Guelph, or has to accumulate at Owen Sound, and remain until the opening of navigation in the spring.

With a line of Railway from Toronto open to Durham, what portion of the surplus would, in the judgment of any practical business man, seek an outlet to its inevitable destination, an eastern market, through the warehouses at Owen Sound, whether during the autumn or for the spring trade? In my judgment a glance at the map of the country, viewed in the light of his experience, would convince any unbiased business man, that under any ordinary state of business and prices, the whole surplus production would be inevitably drawn to the Railway Station at Durham, otherwise why is it proposed to push a branch of the Ontario, Simcoe and Huron Railway

out to Durham, if not to drain the whole country of its surplus products? The people of Owen Sound, and surrounding townships in Grey and Bruce, are competent to answer these questions.

Having, as I believe, shewn pretty clearly that the town of Owen Sound can be ruined, and as a consequence the surrounding townships seriously injured, without going into an expenditure necessary to build a Railway up to that port, what can be said in defence of the people of that town for furthering and supporting a railway scheme, which, according to Mr. Cumberland's logic, would complete their destruction.

The town of Owen Sound enjoys a geographical position, and possesses certain natural advantages, which entitles it to the rank of holding a commanding position upon the great North-western waters. No large expenditure is necessary to construct a capacious first class commercial harbour, and becoming the terminus of a line of Railway direct from Lake Ontario, at Toronto, would develop these natural advantages by securing for it such a share or volume of Western and North-western lake trade, together with a trade yet in embryo, namely that of the North-east coast of Georgian Bay, as would compensate it a hundred times over, for whatever loss it might sustain by the trade of the townships east and south of it being drawn to stations on the Railway in that direction.

Owen Sound would moreover still continue to be the depot for the trade of all the *adjoining* townships, and for those more distant, lying west and north-west.

The growth and existence of a large town upon the "Sound," is a matter of the very first importance, to the people of a large tract of country extending westward to Lake Huron, of which it is the natural, as it is at present, the real commercial centre; they are therefore deeply interested in the result of the present contest of the people of Grey, with the Northern Railway interest.

It may be urged that the contemplated extension of the Ontario, Simcoe and Huron Railway from Collingwood to Owen Sound, by way of the Bay shore route, through Collingwood, St. Vincent and Sydenham, will with the "Durham and Angus line" afford the Counties of Grey and Bruce all the Railway facility that the Central would give them.

There is a sort of plausibility in that proposition, but who believes that that extension will ever be built? The Northern Railway interest will not build it. Why should that interest spend a million of dollars to develop the capabilities of a rival port, and accommodate two or three townships, whose trade they already command at Collingwood. No; the question as to the construction of what I may call the Collingwood and Owen Sound extension, was fitly and candidly answered by the present able Managing Director of the "Northern Railway," when put to him by the people of St. Vincent: "Gentlemen, you have water communication in summer and the best of snow roads in winter."

THE CENTRAL ROUTE.

The line indicated on Mr. Tully's map starts from the line of the Grand Trunk Railway, at Weston, and runs thence northwardly and nearly direct along the valley of the Humber, via Mono Mills, to a point in the valley of the Credit, about three miles north of Orangeville, from that point, or from Orangeville, on a line very nearly direct to the third concession line of the township of Amaranth on the southerly boundary of the county of Grey; the face of the country is very favourable. And from thence, with but slight deviations from a straight line, through portions of the townships of Melancthon, Proton, Artemesia, Glenelg and Holland, to a point in the valley of the Sydenham river, on the boundary road between the townships of Sullivan and Holland, in the vicinity of Chatsworth, the country is equally favorable; presenting few features involving expensive construction either in cuttings, embankments, or bridging. From Chatsworth to Owen Sound, the country is favourable on two lines, one by the valley of the Sydenham, through portions of the townships of Sullivan and Derby; the other by the valley of a small stream having its source near the Garafraxa road, in the township of Sydenham, and which empties into the sound some four miles north of the town.

In order to determine which of these two routes between Chatsworth and Owen Sound is the most feasible, it will be necessary to make careful surveys of them. Both, I believe, are practicable. The most eastwardly line would enter the valley of the Sound, about one mile below the town; having at that point attained a southwardly course, along the *talus* of the eastwardly cliff.

On the accompanying map I have projected the line through the townships of Proton, Artemesia, Glenelg and Holland, on the south-west side of, and in proximity to the Sydenham road, but it is possible that instrumental surveys of the route through these townships, may develop a line favourable for construction as far to the south-west as Priceville.

As the hilly region extends into the neighbourhood between Priceville and Flesherton, and as the time at my disposal did not allow me to extend my reconnoissance beyond the clearings along the Sydenham road, I cannot speak with confidence on this point.

Between Toronto and Orangeville, or the point above mentioned, in the valley of the river Credit, north of that village, three routes claim the attention of the Engineer. First that examined by Mr. Tully, which diverges from the line of the Grand Trunk Railway, as stated above, at or near Weston, and following up the valley of the river Humber, or in the immediate vicinity of that valley, to a point near the north boundary of the township of Albion, assumes then a course nearly west, still following the Humber Valley, and enters the gorge through which the river flows, at Mono Mills. From Mono Mills its direction is west and north-west for a distance of about seven miles, over favourable ground, to the common point north of Orangeville, above mentioned.

The second route would strike off from the Grand Trunk Railway at a point about half way between the Humber and Mimico valleys, and would run thence north-westerly along the "divide" between those streams, to a point about one mile east of East Caledon Post Office. From that point the line assumes a more westerly course, and taking the ascent of the Caledon "Mountains" diagonally, cuts the "centre road," leading from Brampton to Orangeville, a little south of Charlestown Post Office. Inclining thence, and curving to the right, it would enter the valley of the Credit, about two and a-half miles south of Orangeville, and would then follow the valley to the common point above described.

A survey of that part of this line situated between East Caledon and the point in the Credit Valley south of Orangeville, was made by Mr. Wheelock, Civil Engineer of Orangeville, to test the practicability of surmounting the heights by this route, and it was found that the maximum grade would not exceed sixty feet to the mile. Mr. Wheelock reports the line as being very favourable in respect to linear features and quantity of excavations.

As there is no other part of this route between Orangeville and the valley of Owen Sound, presenting acclivities requiring instrumental examination, to establish the feasibility of the line approximately projected on the accompanying map, there can be no question as to its complete practicability.

The third line I will distinguish as the Brampton and Credit Valley route. It would diverge from the line of the Grand Trunk Railway, near the western limits of the city of Toronto, and leaving that Railway to the right, pursue a westward course, through the townships of Etobicoke, Toronto and Chinguacousey, to Brampton; and would run thence north-westerly in the Township of Chinguacousey through the first concession west of the "centre road," to the rear boundary of that township, where it would enter the valley of the river Credit, and cross a tributary of that stream flowing from the Northeast. The line would then leave the immediate valley of the river, without any objectionable deviation from the general course, and enter upon the lower foot hills of the "Caledon Mountains," on favourable ground along the left or eastwardly bank of the lower valley of the river, and would be carried forward in the direction of a point about one-eighth of a mile north of the Forks of the Credit, where it will enter and cross the main valley to the west bank. From that point northward for the distance of three miles, the valley is a gorge from five hundred to one thousand feet wide, and from one hundred and fifty feet deep at the road bridge above Church's Mills, the bed of the stream one mile below that point, is little less than two hundred and fifty feet below the level of the plateau, which bounds the valley for three or four miles above.

From the point of entering and crossing the gorge above the "forks," the line in its course northward would follow the westerly side of the valley to a point about three hundred feet below the cascade at Church's Falls, where it would cross the stream diagonally to the left bank, and enter the upper and more open section of the gorge.

Between Church's Mills and Orangeville the valley is fair and open, widening out from the public road crossing, one mile above the mills, as you proceed northward, presenting as fair a surface for the economical construction of a Railway as the most sanguine projector could possibly desire to see.

At the falls, in the east bank of the ravine, building stone of good quality, and in unlimited quantity, will be found for the bridge, and bank walls, required to carry the proposed Railway across the stream at that point.

As there would not be much business to be gathered up between Brampton and Toronto, and as the river crossings upon that part of the line will be expensive, it would in my judgement be advisable if possible to arrange with the Grand Trunk Railway Company to lay down a second line of rails alongside their track.

The additional construction to be added to the road bed,—culverts and bridges between Brampton and the city—for a second track, would not cost more than one third the sum a new line would require for its construction; and the arrangement might include the use of the Union Station, which I understand that Company are about erecting in Toronto, for the passenger trains of the Central.

I do not propose to institute comparisons between these three routes between Toronto and the common point north of Orangeville, for in the absence of actual surveys, any conclusions I might arrive at would be of but little value. That all three are practicable, I do not entertain the slightest doubt; I will therefore make but a single remark, namely, that I deem it most desirable in locating the line, to secure for the "Central" the broadest base of local support of which the face of the country, and a due regard for the linear features of the line, will admit.

LOCAL BENEFITS.

With the results and experience of the last ten years before them, the people of all parts of this country are fully alive to the benefits conferred upon such sections of the Province as have been intersected by lines of Railway; and it is well understood that while the value of land depends first upon its productive capacity, its commercial value depends as well upon its proximity or otherwise to a good market; and also that Railways in their effects upon the trade and commerce of a country, overcome distance, and establish between sections geographically far apart, the most intimate business and social relations.

In travelling recently through your County and the County of Bruce, I found the people fully aware of the disadvantages of their present isolated position, and not only anxious, but determined if possible, by contributing liberally to the construction of some feasible line of Railway, to open up for themselves more facile and direct communication with the outer world.

PROSPECTIVE TRAFFIC.

The present population of the tract of country between Toronto and Owen Sound, which would be tributary to the proposed Toronto & Owen Sound Central Railway, I estimate at one hundred and twenty thousand, exclusive of the city of Toronto; basing that estimate upon the last census as compared with the census of 1851.

The statistics of Railway traffic in the Eastern, and in some of the Western States of the American Union, show that the local receipts from the territory tributary to a Railway, average about three dollars for each unit of the population. In the above estimate, I have left out the City of Toronto, but as it must be allowed that the population of that city contributes to all the Railways centering there, I consider that I am entitled to take one quarter of it into my estimate. Assuming then that the population of Toronto is 50,000, I may add 12,500 to the sum above stated, making the total 132,500.

This basis of population at the above estimate of \$3.00 per capita per annum, would give \$397,500 gross revenue, equal to a net revenue of \$198,750,—which again is equal to the interest at six per cent. upon a capital of \$3,312,500.

That amount of capital distributed upon the mileage of the line will allow for each mile \$30.671 (£7,667.3.9 currency for construction and equipment.

According to the annual report, 1865, of the Northern Railway, the gross amount of revenue derived from local traffic, is \$467.392.

The population tributary to that Railway, I find from the sources above mentioned including one quarter of the population of the City of Toronto, estimated at 12,500, to be approximately 125,000.

The amount of gross revenue above given, divided upon that population gives a fraction over \$3.73 per head.

It may be urged that a part of the population I have estimated as tributary to the "Central," have contributed to swell the amount of gross receipts above quoted, but the overplus of 73 cents per capita upon the population I have allowed the "Northern Railway leaves 30,000 of population to spare, which I may add to the sum to bring the per capita annual average of gross traffic receipts, down to \$3.00, the basis of my revenue calculation for the proposed "Central Railway."

In making my estimate of population tributary to the "Central" I have been careful to make an equitable division of the territory lying between the two lines, giving the "Northern," part of Collingwood and Osprey in Grey, and taking Adjala, Mono, and part of Mulmur, in Simcoe for the "Central."

COST OF CONSTRUCTION AND EQUIPMENT.

The face of the country upon which the line for the "Central" should be located, is so favourable for the economical construction of a Railway, except upon two short sections, that the cost for graduation per mile may be taken at a minimum of the least expensive Railways that have been built in this country, or in the United States.

Between the Grand Trunk Railway at Weston, Malton or Brampton, and the north-west bounds of the valley of the "main Saugeen," in the township of Artemesia,—a section of 50 miles—with the exception of from five to seven miles in the township of Caledon, the work of graduation will involve little more than formation of road bed, and the building of a few small bridges.

In the neighbourhood of Flesherton, there will be what a sub-Contractor would call some "good work," but nothing "heavy."

Between Flesherton and the Garafraxa road, there will be an occasional cutting; but from the Garafraxa road to the valley of "the Sound," the work will be generally light.

The Caledon section will involve some heavy work; but upon either the Middle (Mr. Wheelock's) line, or the "Credit Valley Line," the length upon which such works will be encountered, will not exceed five miles.

ESTIMATED AVERAGE COST PER MILE.

Land damage, Registry, Perfecting Titles, &c.,	-	-	\$1,000 00
Fencing and Gates,	-	-	750 00
Graduation—including bridges, culverts, road crossings &c.			9,750 00
Superstructure, Stations and equipment,	-	-	13,000 00
Repair Shops, Engineering and contingencies,	-	-	3,500 00
			<hr/>
Total cost per mile,	-	-	28,000 00
Reduced to currency,	-	-	£7,000 0s. 0d.

THROUGH TRAFFIC.

So much has been said and written of late years respecting the trade of the "Great West," by Civil Engineers and others who have undertaken to discuss that question in its bearing upon the several Canal and Railway schemes carried into operation, or projected in this country, while the results have fallen so far short of the predictions made and hopes entertained of it, that I may be pardoned for stating that it is a subject which I approach with great diffidence and some reluctance.

That any line of communication from Georgian Bay across the Canadian peninsula to Lake Ontario, whether Canal or Railway will ever become the channel through which a very large volume of the grain trade of the "Great West" will take its course unless the Caughnawaga Canal shall be constructed, I very much doubt.

The construction of the Caughnawaga Canal to connect the Saint Lawrence with Lake Champlain—adding that Lake to the Saint Lawrence waters as a distributing basin, and connecting the Saint Lawrence and Ottawa Valleys by water with the Hudsons at Troy and Albany, would doubtless have the effect of increasing the volume of Western trade upon the Saint Lawrence, from its present very limited dimensions, to one of very considerable magnitude.

With that Canal opened it would not be unreasonable to expect that a considerable portion of the grain and provisions, surplus of the West seeking an Eastern Market by the St. Saint Lawrence, and Lake Champlain, would take the short route across our Peninsula.

Buffalo and Oswego being at present the chief entrepots of the grain and provision trade upon Lakes Erie and Ontario—there being no inlet for it to the Eastern States by water East of the latter port, accounts in my judgement for the very limited quantity of through freight carried by the Northern Railway of Canada the past year.

In this connection I will submit the following which I find in the report of the sub-committee to the Committee of the Board of Trade of the City of Montreal, appointed for the reception of the delegates from the States of Illinois and Wisconsin, dated April, 1863. "Experience in the grain trade here (Montreal) goes to show that transshipment at the foot of Lake Navigation, from large steam and sailing vessels into river craft, is not only found to be an inconvenience, but is adopted by choice as the cheapest, most facile, and safest mode of delivering grain in our harbour. Vessels loading in the Upper Lakes, now rarely come below Kingston; there transferring their cargoes to barges, the largest class of which now used in the trade, measure 150 feet in length by 30 feet in width, draw 9 feet of water, and carry 22,000 bushels of wheat."

Whether such barges could be safely used upon Lake Ontario, I cannot undertake to say, but the saving in distance of 300 miles by the overland route from Owen Sound to Toronto, as compared with the Saint Clair, Lake Erie and Welland Canal route, would, provided such barges can be used with safety between Toronto and Kingston, on the voyage to Whitehall, at the southern extremity of Lake Champlain, be sufficient to attract to your proposed Railway, some part more or less of the grain and provision trade of the West. The volume of that trade is now so large that twenty per cent of it would enrich both your proposed line and the "Northern."

There is however another trade, yet in its infancy, but destined in the near future to assume large proportions, which if the merchants and capitalists of this country are true to themselves, may be owned and controlled by them,—namely, that of Georgian Bay and the North-west, which will naturally seek Canadian lines of communication in its course to points east, and the seaboard.

The pine timbered lands in that extensive tract of country bounded by the north-east coast of Georgian Bay, must soon be broken into, and the lumber and timber taken to eastern markets.

It is within my own knowledge that the pineries in the Counties of Peterborough, Victoria, Ontario and Simcoe, which supply the markets in the State of New York, with not less than 150,000,000 feet of sawn lumber annually, are being rapidly worked out, and will soon be exhausted.

That the demand for sawn lumber in the market above named will continue after the supply of timber in the Counties mentioned has failed, will not I think be denied.

To supply that demand the north-east coast of Georgian Bay must and will be penetrated in all directions, and the lumber made must seek transit across our Peninsula.

From these sources I think I am warranted in predicting that a heavy volume of through traffic may be safely counted on; and I may remark, as "competition is the life of trade," the presence of your line as well as the "Northern" upon Georgian Bay, will by the facilities they will severally present, tend to the more rapid development of trade, not only upon that water, but upon those greater waters in the north-west.

I have the honour to remain, Sir,

Respectfully your obedient servant,

JOHN W. TATE,

Civil Engineer.

